

COVER FOR THE REAR BAG COMPARTMENT OF A GOLF CART

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CROSS REFERENCE TO RELATED APPLICATIONS

This application claims priority to U.S. Provisional Serial No. 60/271,007, filed February 21, 2001.

10 **FIELD OF THE INVENTION**

The invention relates generally to golfing accessories, and relates more particularly to a protective attachment for a golf cart.

BACKGROUND OF THE INVENTION

15 Golfing is a popular pastime for many people of all ages. Golfers occasionally use a motorized golf cart to transport their golf equipment while playing golf. Many golf carts include a rear compartment into which a golf bag and clubs can be positioned during the use of a cart. Commonly, the rear compartment is uncovered, even if the cart includes a top section for covering
20 the seating compartment of the cart. Hence, the golf bag and clubs positioned in the rear compartment of the cart are unprotected from weather, elements, or

precipitation, such as rainfall. A golfer's grip on his clubs, and his game, can be adversely affected if the grips of his clubs become wet. Thus, it would be desirable for protecting a golfer's bag and clubs from weather precipitation while the bag and clubs are positioned in the rear compartment of the golf

5 cart.

At least one type of golf cart cover that attaches to conventional golf carts provides protection to a golf bag and clubs positioned in a rear compartment of the golf cart. However, a user's access to other accessories in the rear compartment of the golf cart can be hindered by the positioning of the

10 cover with respect to the cart. Thus, there is a need in the art for a golf cart cover that does not interfere with a user's access to the rear compartment of the cart, yet provides a cover for the rear compartment.

Furthermore, there is another need in the art to provide an improved attachment to a golf cart that connects to the golf cart in a relatively quick and

15 simple manner.

Yet another type of golf cart cover that attaches to conventional golf carts attaches directly to the roof of a golf cart. Unfortunately, this type of golf cart cover tends to sway back and forth relative to the cart, and has relatively little structural support. The movement of the golf cart, combined

20 with occasional or steady winds, causes this type of golf cart cover to vibrate and shake, causing unpleasant noise, vibration, or otherwise potentially damaging clubs or other accessories carried in the rear compartment of the

golf cart. Therefore, there is a need in the art to provide an attachment to a golf cart that has improved structural support.

SUMMARY OF THE INVENTION

5 The invention meets the needs above. The invention provides a golf cart cover that does not interfere with a user's access to the rear compartment of the cart, yet provides a cover for the rear compartment. Furthermore, the invention provides an improved attachment to a golf cart that can be connected to the golf cart in a relatively quick and simple manner. Finally,
10 the invention provides an attachment to a golf cart that has improved structural support.

Generally described, the invention is an apparatus for covering the rear bag compartment of a golf cart. The apparatus is configured for attachment to a support frame of a golf cart, wherein the support frame supports a hard roof
15 top for the golf cart. The apparatus includes a stationary frame member, a movable frame member, and a cover. The stationary frame member is configured for mounting to the support frame of the golf cart. The movable frame member is configured for mounting to the stationary frame member, and further configured to pivotably rotate over a portion of the rear
20 compartment of the golf cart. The cover is configured for mounting to the movable frame member so that when the movable frame member rotates over a portion of the rear compartment of the golf cart, the cover covers a portion of the rear compartment of the golf cart.

More particularly described, the invention includes a stationary main frame connected to the rear support frame of a golf cart. The stationary main frame includes a U-shape frame with a pair of arm tubes, and a connecting tube between the arm tubes. The connecting tube mounts to the rear support frame of the golf cart. A movable frame connects to the stationary main frame. The movable frame includes a U-shape piece with two arm bars. At least one arm bar connects to the stationary main frame. A connecting bar connects between the two arm bars so that the movable frame can rotate over a portion of the rear compartment of the golf cart. A cover retainer strip connects to the stationary main frame. The cover retainer strip includes an elongate strip, and a channel recess extending along a portion of the elongate strip. A cover connects to the cover retainer strip. The cover extends from the channel recess and over the movable frame when the movable frame is rotated over a portion of the rear compartment of the golf cart.

In one aspect of the invention, the invention is a method for covering a rear compartment of a golf cart having a support frame to support a hard roof top over the golf cart. The method includes mounting a stationary frame member to a support member of the support frame. Next, the method includes mounting a movable frame member to the stationary frame member, the movable frame member configured to rotate to cover a portion of the rear compartment of the golf cart. Finally, the method includes mounting a flexible cover to the movable frame member so that when the movable frame

member covers a portion of the rear compartment of the golf cart, a portion of the flexible cover covers a portion of the rear compartment of the golf cart.

In yet another aspect of the invention, the invention is a method for covering a rear compartment of a golf cart having a support frame to support a hard roof top over the golf cart. The method includes rotating a movable frame member relative to a stationary frame member. The stationary frame member is configured to mount to the support frame, and the movable frame member is configured to cover a portion of the rear compartment of the golf cart.

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BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an exploded perspective view showing an embodiment of the invention connected to a support frame of a motorized golf cart.

FIG. 2 is a rear view of the embodiment in FIG. 1 shown in a deployed or operative position.

FIG. 3 is a perspective view illustrating another embodiment of the invention.

FIG. 4 is a perspective view of the embodiment shown in FIG. 3

FIG. 5 is a rear view of the embodiment shown in FIG. 3.

20 FIG. 6 is a side view of the embodiment shown in FIG. 3.

FIG. 7 is a front view of the embodiment shown in FIG. 3.

FIG. 8 is an upper perspective view of the embodiment shown in FIG. 3.

DETAILED DESCRIPTION OF DISCLOSED EMBODIMENTS

The invention provides a golf cart cover that does not interfere with a user's access to the rear compartment of the cart, yet provides a cover for the 5 rear compartment. Furthermore, the invention provides an improved attachment to a golf cart that can be connected to the golf cart in a relatively quick and simple manner. Finally, the invention provides an attachment to a golf cart that has improved structural support.

Turning now to the drawings in greater detail, where numerals 10 represent detailed features of the invention, FIG. 1 illustrates a motorized golf car hardtop 5 and an exploded perspective view of invention 10 that can be connected to an upper portion of a rear support frame 12 for the hardtop 5 of a motorized golf cart. The rear support frame 12 of the motorized golf cart includes two vertical arms 16a,b with a corresponding top horizontal portion 18a,b extending from the upper portion of each vertical arm 16a,b, with the horizontal portions 18a,b extending towards each other and parallel with the rear portion of the cart. 15

The invention 10 is a cover for the rear bag compartment of a motorized golf cart that includes a stationary main frame 20, a movable frame 22, and a cover 24. Typically, the stationary main frame 20 connects to the 20 upper portion of a rear support frame 12 of the motorized golf cart. The cover 24 connects to the movable frame 22, and the movable frame 22 connects to the stationary main frame 22 so that both the movable frame 22 and cover 24

can pivot with respect to the stationary main frame **20** and the motorized golf cart.

A stationary main frame **20** can be a square-“U-shaped” frame made from approximately 1” square iron, aluminum or similar type of metal tubing.

- 5 The stationary main frame **20** includes a pair of arm tubes **26a,b** and a connecting tube **28** disposed between the arm tubes **26a,b**. Each arm tube **26a,b** is slightly angled at the middle portion of each arm tube **26a,b**. The connecting tube **28** is substantially straight along its length. Typically, the connecting tube **28** is oriented in a substantially horizontal position, and is
- 10 substantially parallel with the top horizontal portions **18a,b** of the rear support frame **12**. When the connecting tube **28** is oriented in such fashion, the arm tubes **26a,b** extend downward from each end of the connecting tube **28** so that the arm tubes **26a,b** are oriented substantially parallel with, but not connected with, the vertical arms **16a,b** of the rear support frame **12**. The connecting
- 15 tube **28** is then connected only to the bottom side of each of the top horizontal portions **18a,b** of the rear support frame **12**. Holes machined through the connecting tube **28** and the top horizontal portions **18a,b** of the rear support frame **12** so that mounting bolts or hardware can secure the connecting tube **28** to the top horizontal portions **18a,b** of the rear support frame **12**. When
- 20 the connecting tube **28** is secured to the top horizontal portions **18a,b** of the rear support frame **12**, the stationary main frame **20** remains in a relatively fixed position with the respect to the rear support frame **12**. In this manner, the stationary main frame **20** is connected only to the horizontal portions

18a,b of the rear support frame **12** and is not connected in any manner to the vertical arms **16a,b** of the rear support frame **12**.

In some instances, the stationary main frame **20** can be configured with a quick-connect type fittings **29** to permit rapid connection and disconnection of the stationary main frame **20** with the upper portion of the rear support frame of a motorized golf cart. This provides a user with the option of rapidly connecting the stationary main frame **20**, the movable frame **22**, and the cover **24** when the invention **10** is needed, or alternatively, disconnecting the stationary main frame **20**, the movable frame **22**, and the cover **24** when the invention **10** is not needed. Quick-connect type fittings can include, but are not limited to, a conventional bolt with a corresponding nut, or any other type of device that can be used to connect a stationary main frame **20** to a portion of the rear support frame **12** of a motorized golf cart in a relatively quick manner without the need for mechanized tools or equipment.

A movable frame **22** can be a square-“U-shaped” piece made from approximately 1” flat iron, aluminum or similar type of material. The movable frame **22** includes two arm bars **30a,b** and a connecting bar **32** disposed between the each arm bar **30a,b**. Each arm bar **30a,b** is substantially straight along its length. The connecting bar **32** is substantially straight along its length. Typically, the connecting bar **32** is oriented in a substantially horizontal position, and is substantially parallel with the connecting tube **28** of the stationary main frame **20**. When the connecting bar **32** is oriented in such fashion, the arm bars **30a,b** extend away from opposing ends of the

connecting bar **32** so that each arm bar **30a,b** can pivotably connect with an open end of a corresponding arm tube **26a,b**. The arm bars **30a,b** can then be connected to the stationary main frame **20**. Holes machined through the open ends of the arm bars **30a,b** and through the open ends of the corresponding arm tubes **26a,b** are sized for connecting bolts or hardware to pivotably connect the arm bars **30a,b** to a corresponding arm tube **26a,b**. When the arm bars **30a,b** are secured to the arm tubes **26a,b**, the movable frame **22** can pivot with respect to the stationary main frame **20**.

The cover **24** can be made of collapsible or flexible material such as plastic, vinyl, canvas, or other similar types of material. The cover **24** includes a cover retainer bar **34** along one edge of the cover **24** that can be used to support the cover **24** in a position relative to the stationary main frame **20**. For example, the cover **24** can be stretched between the connecting tube **28** and the movable frame **22** so that at least one portion of the cover **24** remains stationary with respect to the stationary main frame **20**, and another portion of the cover **24** can pivot or move concurrently with the movable frame **22** when the movable frame **22** pivots with respect to the stationary main frame **20**.

Typically, the cover **24** is made from canvas panels and has a clear plastic window in one or more of the canvas panels. For example, the cover **24** can be a four-panel, box-shaped cover with a clear plastic window in the rear panel. The box-shaped cover includes a cover retainer bar **34**, a top panel **36** connected to a rear panel **38**, and a left side panel **40** and right side panel

42, both connected to the top panel 36 and rear panel 38. The side 44 of the top panel 36 that is not connected to an adjacent panel 38, 40, 42 incorporates a cover retainer bar 34 that can be connected to or stitched within the unconnected side 44 of the top panel 36. A cover retainer bar 34 can be a 5 round plastic cord that is approximately 3/8" diameter. The box-shaped cover is fit over the movable frame 22, with the cover retainer bar 34 of the top panel 36 operable to connect to the stationary main frame 20. Since the box-shaped cover is manufactured from a fabric-type material, the cover 24 remains flexible when the movable frame 22 pivots with respect to the 10 stationary main frame 20.

The invention 10 can also include a cover retainer strip 46 connected to the stationary main frame 20. Typically, the cover retainer strip 46 is a piece of flat corner bar with a recess 48 machined into the length of the bar. The cover retainer strip 46 is substantially straight along its length. The 15 recess 48 which is typically a "C-shaped" channel is sized to receive the corresponding cover retainer bar 34 along the unconnected side 44 of the top panel 36 of the cover 24.

When the cover retainer strip 46 is positioned substantially horizontal and parallel with the connecting tube 28 of the stationary main frame 20, the 20 cover retainer strip 46 can be connected to the connecting tube 28. Conventional bolts or other connectors can be used to connect the strip 46 to the connecting tube 28. When the cover retainer strip 46 is secured to the connecting tube 28, the recess 48 is oriented towards the movable frame 22

and the cover 24. The cover retainer strip 46 and cover retainer bar 34 cooperate to support the cover 24 from the recess 48. When the cover retainer bar 34 is inserted into and along the length of the recess 48, the cover retainer bar 34 and adjacent cover 24 are held securely against the cover retainer strip 46. Other configurations of the cover retainer strip 46, the cover retainer bar 34, and the recess 48 exist to connect the cover 24 to the cover retainer strip 46.

Note that the cover 24 can also include Velcro straps (not shown) or other similar types of straps or tie downs to further secure the cover 24 to the cover retainer strip 46 in a non-operation upright position, the stationary main frame 20, or to the top portion of the rear support frame 12. Velcro straps can be connected to the top panel of the cover 24, and can be wrapped around the cover retainer strip 46, the stationary main frame 20, or the top portion of the rear support frame 12 to support the cover 24 in a position relative to the stationary main frame 20.

FIG. 2 illustrates the invention 10 as described in FIG. 1 in a deployed or operative position. Initially, when the invention 10 is not in use, the movable frame 22 (as shown in FIG. 1) can be pivoted upward so that the connecting bar 32 of the movable frame 22 is adjacent to the connecting tube 28 of the stationary main frame 20. Thus, when the invention 10 is not in use, the cover 24 is not deployed over the rear compartment of the golf cart, and when positioned in the non-operative upright position, allows a user such as a golfer to access the rear bag compartment of the golf cart.

When the movable frame **22** is pivoted downward from the upper portion of the rear support frame **12** of the golf cart, the cover **24** cooperates with the movable frame **22** and extends downward and over the rear compartment of the golf cart as shown in FIG. 2. Typically, the shape or 5 design of the cover **24** limits the downward movement of the movable frame **22** to the intersection between the top panel **36** and the rear panel **38** of the cover **24**, as shown in FIG. 1. Thus, when deployed, the cover **24** provides protection from the weather and elements for objects such as golf clubs and golf bags stored in the rear compartment of the golf cart. A user such as a 10 person sitting in the front portion of the golf cart can still access the rear compartment of the golf cart even when the framed rear bag cover **10** is in a deployed position.

FIG. 3 illustrates a perspective view of a stationary main frame **100** of another embodiment of the invention. FIG. 4 illustrates a perspective view of 15 the stationary main frame **100** mounting to a rear support frame **102** of an alternative type of motorized golf cart. In this embodiment, the stationary main frame **100** is configured to be connected to the upper portion of a rear support frame **102** of an alternative type of motorized golf cart. An alternative type of motorized golf cart has a different configuration of rear support frame **102** than the motorized golf cart described with respect to FIGs. 20 1 and 2. Typically, the rear support frame **102** of the alternative type of motorized cart includes two vertical arms **102a** with a top horizontal portion **102b** extending from the upper portion of each vertical arm, with the top

horizontal portions **102b** extending forward towards the front portion of the cart. Note that this differs from the rear support frame **12** of the motorized golf cart in FIGs. 1 and 2, which included two vertical arms **16a,b** with a top horizontal portion **18a,b** extending from the upper portion of each vertical arm **16a,b**, with the horizontal portions extending towards each other and parallel with the rear portion of the cart.

A movable frame and cover as shown and described as **22** and **24** in FIG. 1 can be connected to the stationary main frame **100**. Typically, the stationary main frame **100** connects to the upper portion **102b** of the rear support frame **102** of an alternative type of motorized golf cart by way of one or more mounting arms **104**. Similar to the embodiment shown and described in FIG. 1, the cover **24** connects to the movable frame **22**, and the movable frame **22** connects to the stationary main frame **100** so that both the movable frame **22** and cover **24** can pivot with respect to the stationary main frame **100** and the golf cart. The stationary main frame **100** is further described in FIGs. 5-8.

In some instances, the stationary main frame **100** can be configured with a quick-connect type fittings **106** to permit rapid connection and disconnection of the stationary main frame **100** with the upper portion of the rear support frame **102** of an alternative type of motorized golf cart. This provides a user with the option of rapidly connecting the stationary main frame **100**, the movable frame **22**, and the cover **24** when the invention is needed; or alternatively, disconnecting the stationary main frame **100**, the

movable frame 22, and the cover 24 when the invention is not needed. Quick-connect type fittings can include, but are not limited to, a conventional bolt with a corresponding nut, or any other type of device that can be used to connect a stationary main frame to a portion of the support frame of an 5 alternative type of motorized golf cart in a relatively quick manner without the need for mechanized tools or equipment.

FIG. 5 is a rear view of a stationary main frame of the embodiment illustrated in FIG. 3. As shown in FIG. 5, a stationary main frame 100 can be a square-“U-shaped” frame made from approximately 1” square tubing. The 10 stationary main frame 100 includes a pair of arm tubes 108a,b and a connecting tube 110 disposed between the arm tubes 108a,b. Each arm tube 108a,b is slightly angled at the middle portion of each arm tube 108a,b. The connecting tube 110 is substantially straight along its length.

FIG. 6 is a side view of the stationary main frame 100 as depicted in 15 FIGs. 3-4. FIG. 7 is a front view of the stationary main frame 100 as illustrated in FIGs. 3-6. FIG. 8 is an upper perspective view of the stationary main frame 100 shown in FIGs. 3-7. As shown in FIGs. 6 and 8, the stationary main frame 100 also includes a pair of mounting arms 110a,b. The mounting arms 110a,b are “L-shaped” brackets, with one end 112 configured 20 to connect to the connecting tube 110 and the opposing end 114 configured to connect to the upper horizontal portions 102b of a rear support frame 102 of an alternative type of motorized golf cart. The mounting arms 110a,b are positioned so that the opposing ends 114 of each mounting arm 104 extend

away from the connecting tube 110, and a portion of each mounting arm 104 is substantially perpendicular to the connecting tube 110. Each mounting arm 104 can be made from 1" flat bar that is bent at approximately a 90 degree angle in the central portion of each arm's 104 length. The length of each 5 mounting arm 104 extending towards the opposing end 114 is typically machined with one or more holes to receive bolts or other similar types of connectors 106 to mount the arms 104 to the upper horizontal portions 102b of a rear support frame 102 of an alternative type of motorized golf cart. Bolts or similar types of connectors 106 can be used to connect the other end 10 112 of each mounting arm 104 to the connecting tube 110.

As shown in FIG. 4, when the connecting tube 110 is oriented in a substantially horizontal position, the mounting arms 104 can extend parallel with the upper horizontal portions 102b of the rear support frame 102 of an alternative type of motorized golf cart. The mounting arms 104 of the 15 connecting tube 110 can then connect to the upper horizontal portions 102b of the rear support frame 102 of an alternative type of motorized golf cart. When the mounting arms 104 are secured to the top horizontal portions 102b of the rear support frame 102, the stationary main frame 100 remains in a relatively fixed position with the respect to the rear support frame 102 of an 20 alternative type of motorized golf cart.

When the connecting tube 110 is oriented in such fashion, the arm tubes 108a,b extend downward from each end of the connecting tube 110 (as shown in FIGs. 5-8) so that the arm tubes 108a,b are substantially parallel

with but not in contact with the vertical arms **102a** of the rear support frame **102** of an alternative type of motorized golf cart. A movable frame, similar to that shown and described as **22** in FIG. 1, can be secured to the extended ends of the arm tubes **108a,b** so that the movable frame **22** can pivot and rotate 5 with respect to the stationary main frame **100**. When the movable frame **22** is connected to the stationary main frame **100**, a cover similar to that shown and described as **24** in FIGs. 1-2 can be supported by the movable frame **22** and secured to the stationary main frame **100**.

10 Note that while the configuration and position for mounting the stationary main frame **100** has been modified in FIGs. 3-8, the configuration and operation of the movable frame and cover remain substantially the same as in FIGs. 1-2. Furthermore, as disclosed in FIG. 1, other configurations of the cover retainer strip **46**, the cover retainer bar **34**, and the recess **48** exist to connect the cover **24** to the cover retainer strip **46**.

15 Alternative embodiments will become apparent to those skilled in the art to which the invention pertains without departing from its spirit and scope.